N-series
Thin Clients
for Citrix HDX

User Manual

Important Notices

Please note that reproduction of this User Manual in whole or in part, without express written permission from NComputing, is not permitted.

NComputing reserves the right to make improvements and/or changes to this User Manual and to the products, programs and/or specifications described herein at any time without notice. Information contained in this document may have been obtained from internal testing or from a third party. NComputing shall not be liable for any direct, indirect, special, incidental or consequential damages in connection with the use of this material. The latest version of this User Manual can be downloaded from the "Documentation" page in the Support section of the NComputing website at: www.ncomputing.com

Refer to the Limited Hardware Warranty applicable to your region for information on what is and what is not covered by the warranty, your responsibilities, exclusions, and how to obtain service. It is your responsibility to download a copy of the warranty at the time of purchase to keep for your records. The warranty can be downloaded from the "Documentation" page in the Support section of the NComputing website.

This product gives users shared access to computer resources. It is not a computer, and may not support all software applications, especially high-resolution graphics applications or 3D games that are designed to be supported by stand-alone computers. Similarly, it may not support all hardware peripherals that are designed to be supported by stand-alone computers.

Refer to your computer operating system and application software vendors' license agreements for information on using these products with NComputing systems. Additional software licenses may be required.

The NComputing hardware and software products described in this user manual are protected by numerous granted and pending U.S. and international patents. Some components of NComputing products utilize open-source software. Please refer to the GPL Declarations section of this User Manual for more information.

© 2003-2012 NComputing Inc. All rights reserved. NComputing and Numo are registered trademarks of NComputing Inc. – USA. VESA is a trademark of Video Electronics Standards Association. Kensington is a trademark of ACCO World Corporation. All other trademarks are the property of their respective owners.

TABLE OF CONTENTS

Important Notices 2
Regulatory Compliance 4
FCC Information 4
GPL Declarations 5
Safety Information 5
1.0 N-series Overview 6
1.1 N-series models 6
1.2 N-series Package Contents 7
1.3 N-series Peripheral Connections 7
1.4 VESA Mount 8
1.5 Citrix Requirements 8
2.0 Device Configuration 9
2.1 The Receiver Tab 10
2.2 The Display Tab 10
2.3 The Audio Tab 11
2.4 The Network Tab 12
2.5 The Date / Time Tab 13
2.6 The Keyboard Tab 14
2.7 The Device Tab 14
3.0 Connecting to your Citrix Environment 16
4.0 Support and Additional Resources 17
Disclaimers and Legal Information 17

Regulatory Compliance

FCC Information

This equipment has been tested and found to comply with the limits for a class B digital device, pursuant to part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy, and if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try and correct the interference by one or the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and the receiver
- Connect the equipment to a power outlet on a circuit different from which the receiver is connected
- Consult your dealer or an experienced radio TV technician for help

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

European Community:

Disposal Information:

This symbol means that according to local laws and regulations your product should be disposed of separately from household waste. The separate recycling of your product will help ensure that it is recycled in a manner that protects human health and the environment.

GPL Declarations

The NComputing N-series access device contains – in part – some free software (software licensed in a way that ensures your freedom to run, copy, distribute, study, change and improve the software). This free software is also contained in the N-series firmware update files that are distributed online. The free software contained within the N-series firmware includes a version of X-LOADER, U-BOOT, LINUX, LIBSYSFS, LIBUCI, LIBUSBIP, ETHTOOL, UCLIBC, QT and BUSYBOX.

Further, for at least three (3) years from the date of distribution of the applicable product or software, we will give to anyone who contacts us at gplcoderequest@ncomputing.com, for a charge of no more than our cost of physically performing source code distribution, a machine-readable copy of the complete corresponding source code for the version of the software that we distributed to you. For additional information refer to this page on the NComputing website: www.ncomputing.com/gplcodedownload

Safety Information

Refer to the following to prevent any physical injury or loss of assets caused by damage to the product.

A user must read this User Manual carefully before use and properly follow the instructions.

- Make sure that the place of installation is not too hot (above 35˚C), too cold (below 0˚C), or too wet (above 85% relative humidity).
- Avoid any severe impacts to the product
- Make sure that the product is not exposed to direct sunlight or any hot machinery.
- Please keep the product away from any items which have strong magnetic properties.
- Do not disassemble, repair or rebuild the product.
- Please properly route all cables and power cords to avoid a tripping hazard. An electric shock, fire, damage to the product or physical injury may occur as a result of tripping over the cable.

1.0 N-series Overview

The NComputing N-series HDX-ready Citrix access device utilizes powerful third-generation Numo™ 3 Software on Chip technology to deliver a high-performance, affordable client for Citrix environments. This user manual will walk you through the differences between each of the different N-series models and explain their basic functionality.

1.1 N-series models

The N-series is available in three distinct versions; the N400, N500, and N500w. The entry level N400 is the thin client of choice for task workers and those workers with light multimedia needs. The N500 adds client-side video rendering to enable the delivery of full 1080p multimedia content, improved network capabilities, as well as options for dual monitor and wireless connectivity.

N400 N500 N500w

	N400	N500	N500w
Network Bandwidth	**10/100**	**10/100/1000**	**10/100/1000**
Onboard Memory	**512 MB**	**512 MB**	**512 MB**
Video Playback	**720p**	**1080p**	**1080p**
4x USB 2.0 Ports	✓	✓	✓
DVI Video Output	✓	✓	✓
Optional Dual Monitor Support		✓	✓
Wireless Network Connectivity			✓

1.2 N-series Package Contents

When you unpack your N-series device, you will find the following items: N-series device, N-series Quick Installation Guide, VESA Mounting bracket with screws, and 12V Power adapter.

1.3 N-series Peripheral Connections

Each of the different models within the N-series lineup feature the following peripheral options listed below from left to right in order of appearance on the device.

Front

Back

Front of Device

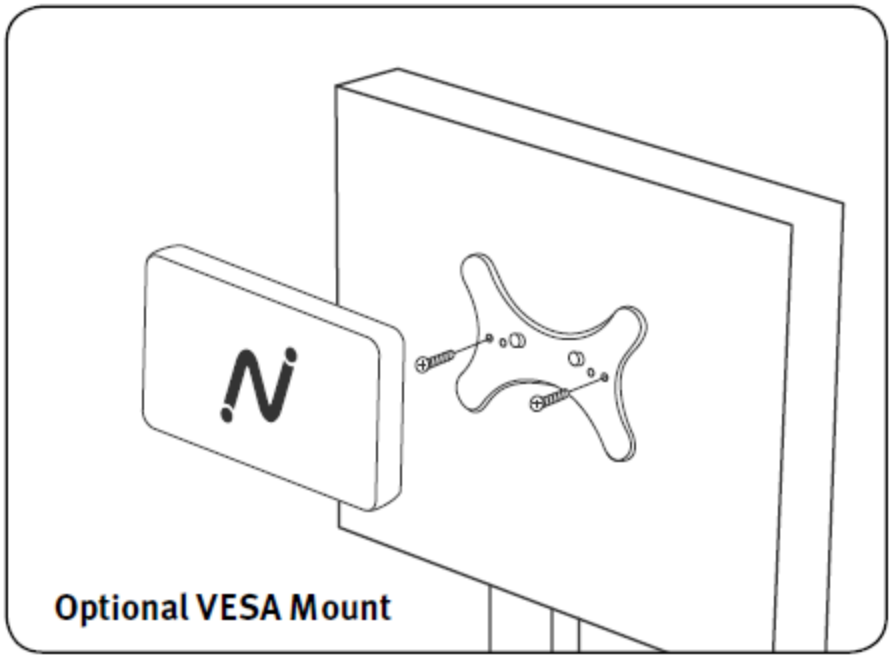
Power On/Off/Reset Switch
2x USB 2.0 Ports
Analog Speaker Port
Analog Microphone Port

Back of Device

Wireless Network Antennae (N500w only)
2x USB 2.0 Ports
RJ45 Ethernet Port
DVI Monitor Port
12V DC Power Port
Kensington Security Lock

1.4 VESA Mount

Included with each N-series device is a VESA mount which can be used to attach the N-series device to the back of any VESA compatible monitor, as shown below.



1.5 Citrix Requirements

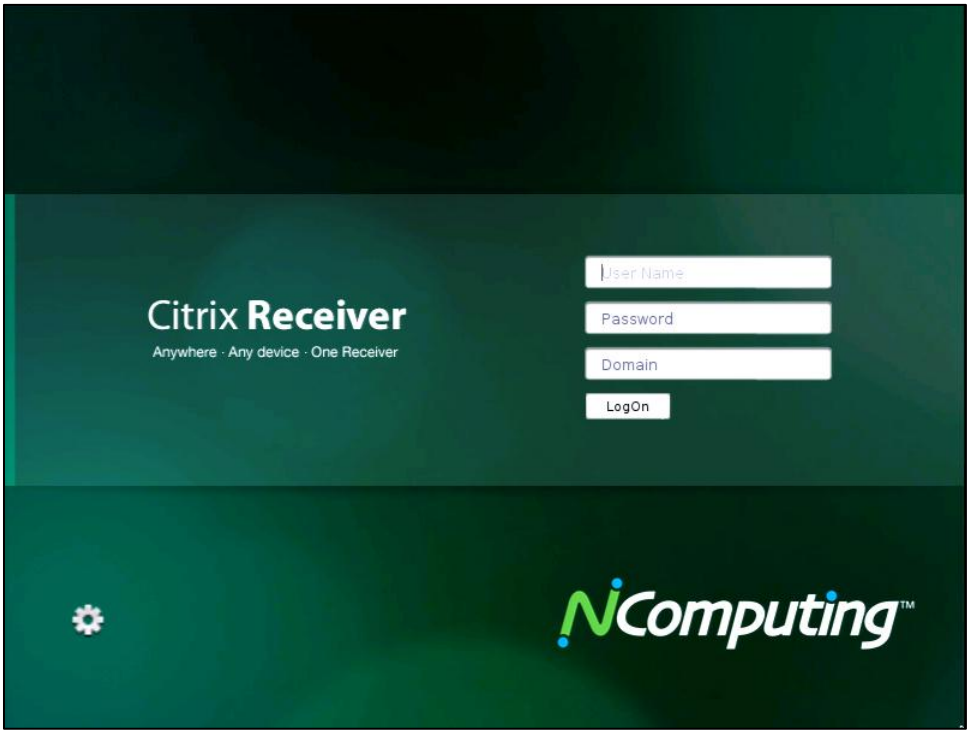
To utilize the N-series device, you will need access to a Citrix environment. The N-series is compatible with the following Citrix environments:

- XenDesktop versions 5.0, 5.5, and 5.6
- XenApp versions 5.0 and 6.0
- VDI-in-a-box version 5.0

For more information on the installation and configuration of Citrix environments, visit http://www.citrix.com/lang/English/home.asp

2.0 Device Configuration

It is strongly recommended that before connecting your N-series for the first time, you review the configuration options to ensure that they conform to the needs of your environment.

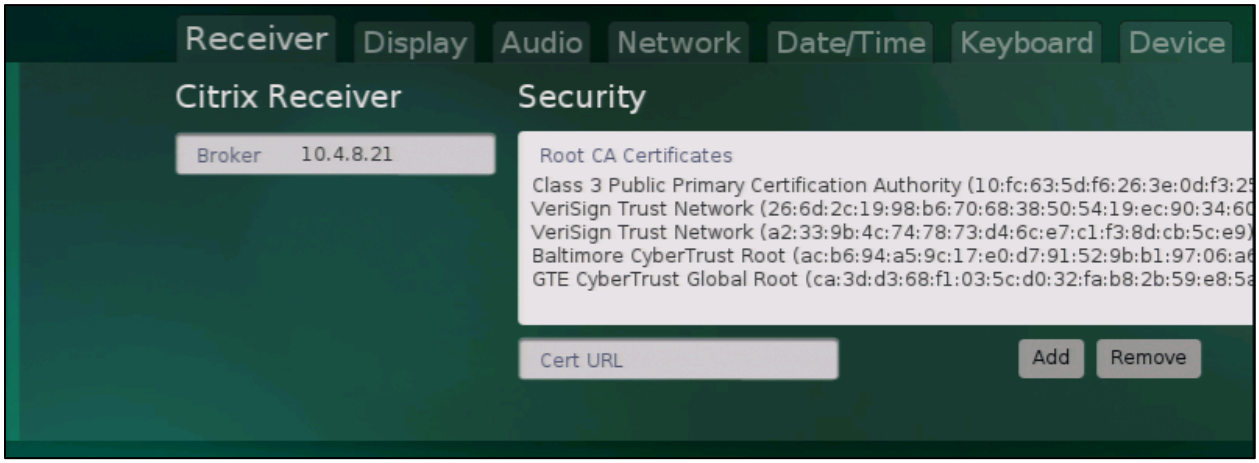


You can reach the configuration screen by clicking the gear icon to the bottom left of the initial Log-in screen, as shown above.

Remember to SAVE your configuration changes as you apply them using the “Save” button to the bottom left of the configuration window. You can return to the Log-in screen at any time using the “Home” button.

2.1 The Receiver Tab

The receiver tab is used to point your N-series device to the Citrix Web Interface and manage your security certificates.

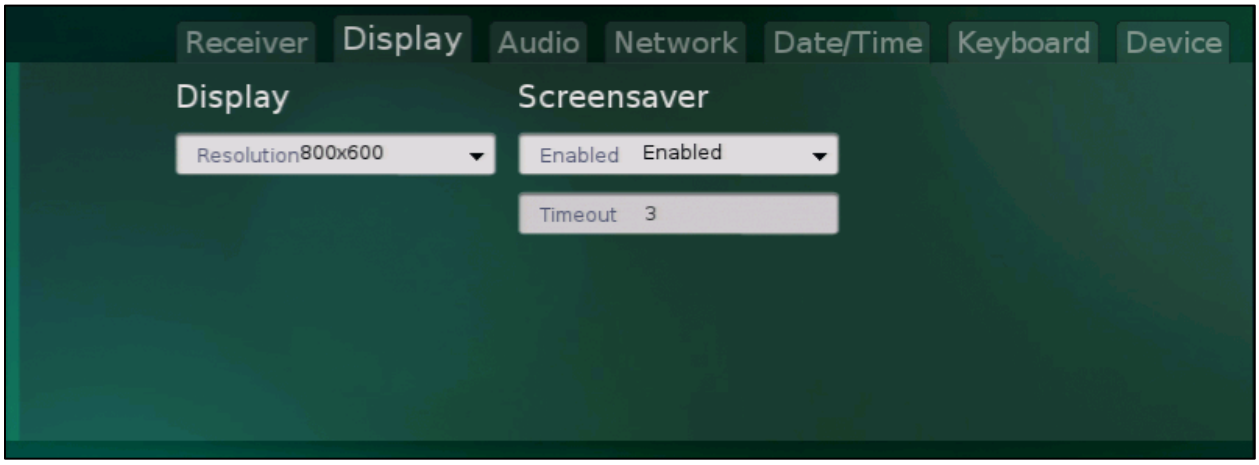


Citrix Receiver - Enter the IP address or fully qualified domain name of the Citrix Web Interface you wish to connect to in the **Broker** field.

Security - The Security section contains a list of currently applied **Root CA certificates**. These certificates are used to validate secure connections such as SSL. You can use the **Cert URL** field and the Add / Remove buttons to manually manage your certificates from this tab.

2.2 The Display Tab

The Display Tab contains settings for monitor resolution as well as screen saver functionality.



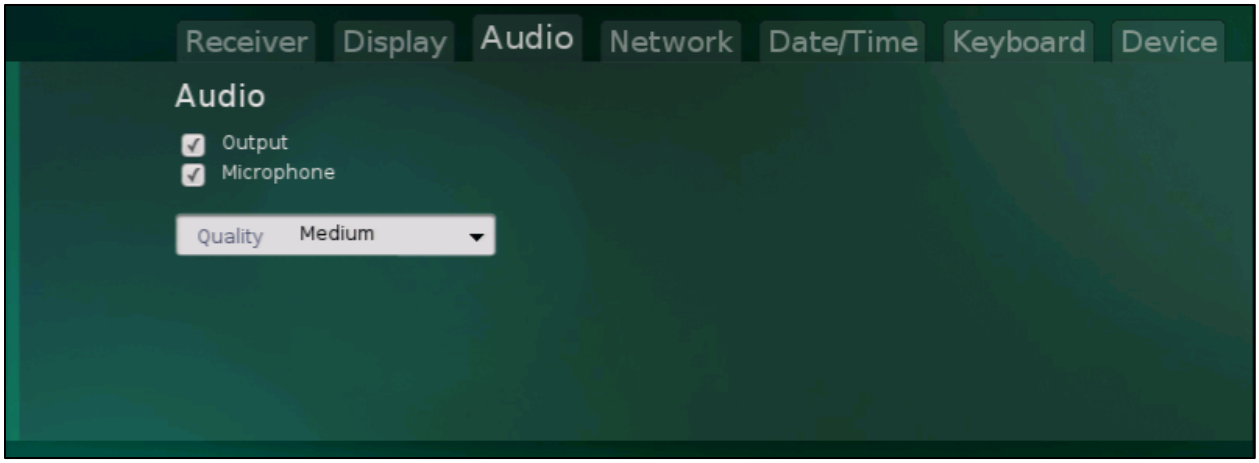
Display – Use the Resolution dropdown to select your desired monitor resolution.

Screensaver – The N-series screensaver feature can be disabled or enabled using the drop down menu. Use the Timeout field to set the delay (in minutes) before the screensaver is triggered.

> **Note:** The N-series screensaver simply disables the video stream while active and is not connected to any screensaver settings within the user session.

2.3 The Audio Tab

The Audio Tab allows you to audio input and output settings.

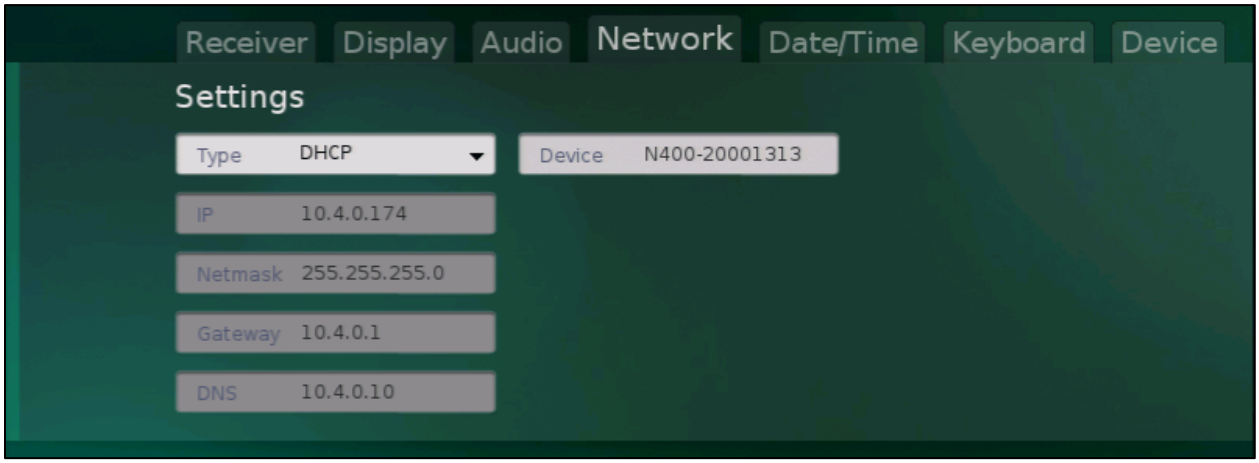


The Audio Tab contains the following options:

- **Output** – When checked, enables sound.
- **Microphone** – When checked, enables microphone input.
- **Quality** – Allows the user to set the sound quality.

2.4 The Network Tab

The Network Tab allows you to configure N-series device network settings as well as change the device name.

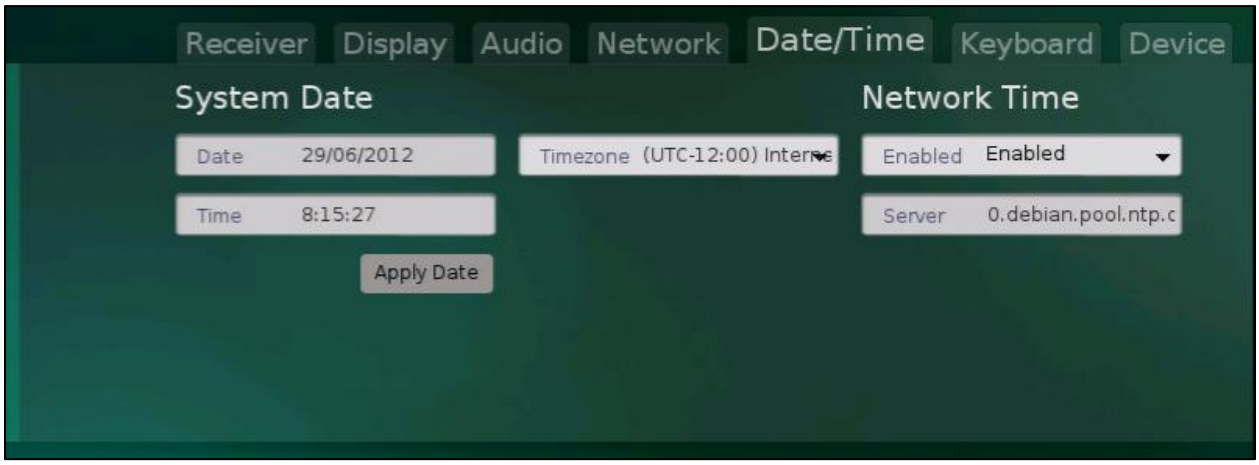


The Network tab includes the following options:

- **Type -** Use this drop down to choose between DHCP and STATIC network configurations.
- **IP -** Enter the desired IP address for the N-series device.
- **Netmask -** Enter the desired Netmask for the N-series device.
- **Gateway -** Enter the desired Gateway for the N-series device.
- **DNS -** Enter the desired DNS address for the N-series device.
- **Device –** Use this field to rename your N-series device if desired.

2.5 The Date / Time Tab

The Date/Time Tab is used to set the internal clock of the N-series device.



The following settings are available under the System Date section:

Date - Use this field to set the current date.

Time - Use this field to set the current time.

Time zone - Use this field to select the appropriate time zone.

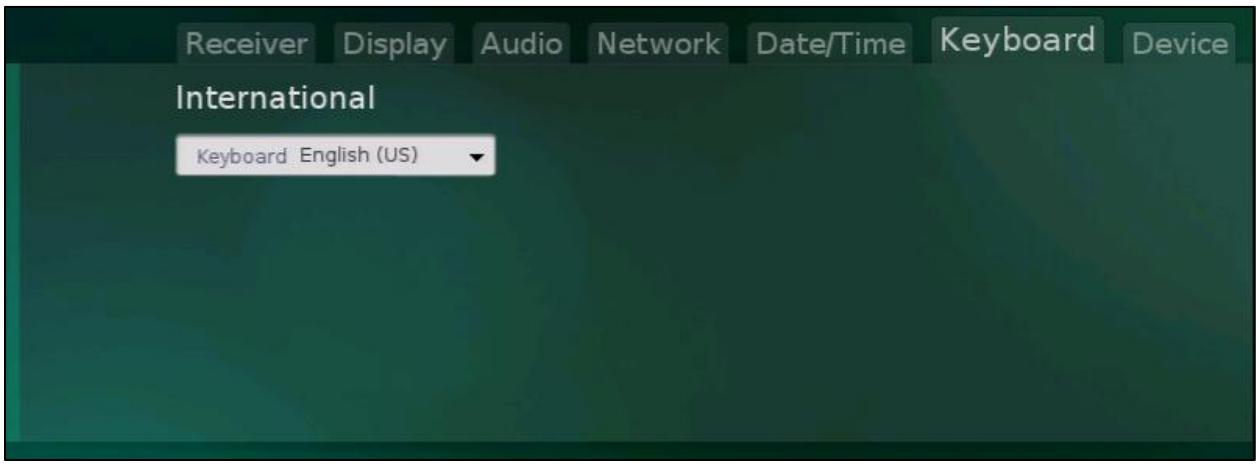
The following settings are available under the Network Time section:

Enabled - Use this drop down to select whether or not the N-series device uses a local network or online time service to automatically set the correct time.

Server - Use this field to specify which network time service you wish to use.

2.6 The Keyboard Tab

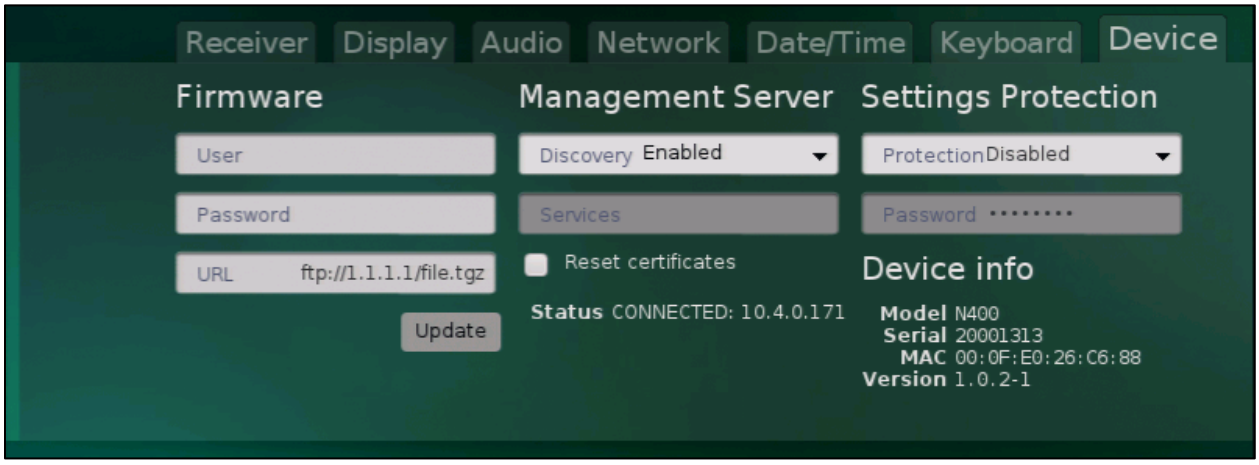
The Keyboard Tab provided access to localized keyboard layout support.



The **International** dropdown menu allows you to configure your N-series device to use one of many different national keyboard formats.

2.7 The Device Tab

The Device Tab provides important information about the N-series device as well as configuration options for firmware updates and vSpace Management Center connectivity.



The fields contained under the **Firmware** section can be used to manually draw updated firmware from an ftp server which you specify. If your environment includes a vSpace Management Center server, you can control how the device connects to that server using the **Management Server** settings. Lastly, you may enable password protection of your N-series device settings using the **Settings Protection** feature.

The Firmware section contains the following options:

- **User -** The user name required to access the ftp server you are accessing to update the device firmware.
- **Password –** The password required to access the ftp server you are accessing to update the device firmware.
- **URL –** The IP address of the server from which you wish to draw a firmware update.
- **Update –** Press to begin the update process.

The Management Server section contains the following options:

- **Discovery -** Enable to have the terminal automatically discover any local vSpace Management Center servers.
- **Services -** If discovery is disabled, you may manually enter the IP address of a VMC server here.
- **Reset certificates -** Checking this resets all vSpace Management Center certificates on the device.

The Settings Protection section contains the following options:

- **Protection** – Enable or disable password protection of device settings.
- **Password** – Enter the password you wish to use to protect this device's settings.

Note: You can configure your DHCP server to automatically provide your N-series device(s) with vSpace Management Center and XenDesktop server information. This eliminates the need for you to manually configure these settings. For more information on this process, review the DHCP configuration article at http://www.ncomputing.com/kb/Configuring-DHCP-for-Automatic-N-series-Configuration_338.html

3.0 Connecting to your Citrix Environment

From the initial Log-in screen, enter the User Name, Password, and Domain information of the Citrix Environment you wish to connect to. Once this information is entered, press the “LogOn” button.

Once you’ve logged into your Citrix environment, you’ll be presented with a standard Citrix desktop layout as shown below. From this screen you can return to the Log-in screen by clicking “Log Off” towards the top of the window. The search bar at the top of the window can be used to locate applications available to your Citrix environment.

The “Home” icon on the left side of the screen returns you to this default desktop layout. The “Apps” icon allows you to browse through available applications and environments. Click the “Add Apps” button in the center of the screen to create shortcuts for available applications and environments.

4.0 Support and Additional Resources

NComputing Technical Support

For additional technical documentation, solutions, and how-toe's, visit
http://www.ncomputing.com/kb/

To request Technical Support for NComputing products, please visit the NComputing Support page at http://www.ncomputing.com/support

Additional Information on Citrix products and support

For additional information and support for Citrix products and environments, visit
http://www.citrix.com/lang/English/home.asp

Disclaimers and Legal Information

Information contained in this document may have been obtained from internal testing or from a third party. This information is for informational purposes only. Information may be changed or updated without notice. NComputing reserves the right to make improvements and/or changes in the products, programs and/or specifications described herein anytime without notice. All NComputing software is subject to NComputing intellectual property rights and may be used only in conjunction with Genuine NComputing hardware and in accordance to the NComputing End User Licensing agreement and Terms of Use.

www.ncomputing.com

©Copyright 2003-2012 NComputing, Inc. All rights reserved. NComputing is the property of NComputing.
Other trademarks and trade names are the property of their respective owners. Specifications are subject to change without notice. Performance may vary, depending on the configuration of the shared computer.